



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

MAY 4 1998

Ref: 8P2-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Ms. Kathy Turner
Petroleum Engineering Technician
Petroglyph Operating Company, Inc.
P. O. Box 1839
Hutchinson, Kansas 67504-1839

RE: UNDERGROUND INJECTION CONTROL (UIC)
Conversion of Additional Well to
Antelope Creek Waterflood
EPA Area Permit UT2736-00000
Duchesne County, Utah

Dear Ms. Turner:

Your letter of April 7, 1998, requesting that the following production well be converted to a Class II enhanced oil recovery well and added to the Antelope Creek Waterflood, as authorized under the Modified EPA Area Permit #UT2736-00000 is hereby granted.

<u>NAME</u>	<u>LOCATION</u>	<u>EPA WELL PERMIT NO.</u>
Ute Tribal #30-09	NE/SE Section 30 T 5 S - R 3 W Duchesne County, UT	#UT2736-04451

This additional well is within the boundary of the recently modified area permit for the Antelope Creek Waterflood (UT2736-00000), and this addition is made by modification under the authority of 40 CFR § 144.33 (c) and according to the terms and conditions of that permit. Unless specifically mentioned in this Permit Modification, all terms and conditions of the modified permit will apply to the construction, operation, monitoring, and plugging and abandonment of this additional injection well. The proposed well location, well schematic, conversion procedures, plugging and abandonment plan and schematic, submitted by your office, have been reviewed and approved as follows:

- (1) The **conversion** of this production well has been reviewed, and found satisfactory, therefore, no corrective action is required.
- (2) **Maximum injection pressure (Pmax)** - the permittee shall limit the maximum surface injection pressure (Pmax) to 2152 psig. Permit provision have been made that allow the operator to request an increase or decrease in the injection pressure.



Printed on Recycled Paper



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RE: UNDERGROUND
Conversion
Antelope Creek
EPA Area
Duchesne

*Scan under
UT20736 - 00000
Modification. Minor
Mod Approved 5/4/1998
Will need to link
with UT20736 - 04451
in new database also
under 81 Add Well to Area
Permit.*

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The calculations for the fracture gradient was estimated from instantaneous shut-in pressures (ISIP's) observed during fracturing treatments performed on four (4) individually fraced zones within the Ute Tribal #30-09 well which established an average fracture gradient (Fg) of 0.93 psi/ft. This Fg is acceptable to the Environmental Protection Agency (EPA) and a theoretical maximum allowable surface injection pressure (Pmax), for this well, may be calculated as shown below:

$$P_{max} = [Fg - 0.433 (Sg)] d$$

Where: Pmax = Maximum surface injection pressure at wellhead

d = 4300' shallowest perforations after conversion

Sg = Specific gravity of injected water

$$P_{max} = [0.93 - .433 (1.00)] 4300$$

$$P_{max} = 2152 \text{ psig}$$

Until such time as the permittee demonstrates that a fracture gradient other than 0.93 psi/ft applies to the disposal zones of this newly converted well, the maximum allowable wellhead injection pressure (Pmax) for this well will be 2152 psig.

- (3) The plugging and abandonment plan and schematic, submitted by your office, has been reviewed, and approved.

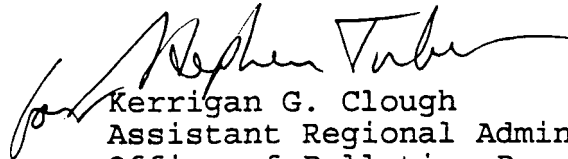
Prior to commencing injection into this well, permittee must fulfill permit condition Part II, C. 2. and have received separate written authorization to inject by the Environmental Protection Agency. In summary, these requirements for your newly permitted injection well are:

- (1) All conversion is complete and the permittee has submitted a completed Well Rework Record (EPA Form 7520-12).
- (2) The pore pressure has been determined.
- (3) The well has successfully completed and passed a mechanical integrity test (MIT); EPA form enclosed.

All other provisions and conditions of the permit remain as originally issued and/or recently modified.

If you have any questions, please contact Mr. Chuck Williams at (303) 312-6625. Also, please direct the above requirements to Mr. Williams at the above letterhead address, citing **MAIL CODE 8P2-W-GW**. Thank you for your continued cooperation.

Sincerely,



Kerrigan G. Clough
Assistant Regional Administrator
Office of Pollution Prevention,
State and Tribal Assistance

Enclosure: EPA Form

cc: Mr. Ronald Wopsock, Chairman
Uintah & Ouray Business Committee

Ms. Elaine Willie, Environmental Director
Ute Indian Tribe

Norman Cambridge
BIA - Uintah & Ouray Agency

Mr. Jerry Kenczka
BLM - Vernal District Office

Mr. Gilbert Hunt
State of Utah Natural Resources
Division of Oil, Gas & Mining

Mechanical Integrity Test Casing/Annulus Pressure Test

U.S. Environmental Protection Agency
Underground Injection Control Program, UIC Implementation Section, 8WM-DW
999 18th Street, Suite 500, Denver, CO 80202-2466

EPA Witness: _____ Date ____/____/92 Time _____ am/pm

Test conducted by: _____

Others present: _____

Well name _____	EPA Number _____
Field name _____	
Location _____ qtr qtr; _____ Section; _____ Township; _____ Range	
Owner/Operator _____	

Time	Test #1	Test #2	Test #3
0 min	_____ psig	_____ psig	_____ psig
5	_____	_____	_____
10	_____	_____	_____
15	_____	_____	_____
20	_____	_____	_____
25	_____	_____	_____
30 min	_____	_____	_____
35	_____	_____	_____
40	_____	_____	_____
45	_____	_____	_____
50	_____	_____	_____
55	_____	_____	_____
60 min	_____	_____	_____

Tubing press _____ psig _____ psig _____ psig

Result (circle) Pass Fail Pass Fail Pass Fail

Signature of Witness: _____

MAY 4 1998

Ref: 8P2-W-GW

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Petroleum Engineering Technician
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CEW
8P2-W-GW
4/29/98

OK'd 8P2-W-GW
4/30/98

8P2-W-GW
4/30/98
5/5/98

P2-W
Turner
5-4-98

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Mr. Jerry Kenczka
BLM - Vernal District Office

Mr. Gilbert Hunt
State of Utah Natural Resources
Division of Oil, Gas & Mining

FCD: May 1, 1998. Chuck W., F:\DATA\WP\PETROGLF\MNRMD-30.09

Date: 4/30/98

MINOR PERMIT MODIFICATION -- ROUTING SLIP

	TO		INIT	DATE
1.	ORIGINATOR <i>Chuck Williams</i>	8P2-W-GW	<i>CEW</i>	<i>4/29/98</i>
2.	TECHNICAL REVIEW - <input type="checkbox"/> CT <input checked="" type="checkbox"/> PO	8P2-W-GW	<i>X</i>	<i>4/30/98</i>
3.	PROOF READ - <i>LAURA C.</i>	8P2-W-GW	<i>LC</i>	<i>4/30/98</i>
4.				
5.	DAVE HOGLE - CONCUR	8P2-W-GW	<i>DH</i>	<i>5/4/98</i>
6.	STEVE TUBER - CONCUR	8P2-W	<i>ST</i>	<i>5/4</i>
7.	KERRY CLOUGH - SIGNATURE	8P2	<i>SC for</i>	<i>5/4</i>
8.	ORIGINATOR - COPIES <i>CHUCK W.</i>	8P2-W-GW	<i>CEW</i>	<i>5/5</i>
9.	- TRACKING	8P2-W-GW	<i>/</i>	
10.	LAURA CLUTTS - MAIL		<i>LC</i>	<i>5/5/98</i>

WELL NAME: *Ute Tribal #30-09*PERMIT NUMBER: *UT 2736-04451*APPLICANT: *Petroglyph*

Contents of Package

Left Side:

UIC ~~Minor~~ Modification SOP
 UIC Program Tracking
 Operating Conditions Checklist
 Cover Letter (Concurrence)
 Cover Letter (Reading File)

Right Side:

Cover Letter (Sign)
~~Minor~~ Modification (Sign)

COMMENTS: *Add New Well to Area Print. UT2736-000000*Originator: *Chuck Williams*

5/5/98 CW 3291C (Hutchinson) #30-09

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

- ☐ Addressee's Address
- ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Ms. Kathy Turner
Geology/Petroleum Engineering Technician
Petroglyph Operating Company, Inc.
P.O. Box 1839
Hutchinson, KS 67504-1839

4a. Article Number
P 213 403 792

4b. Service Type

<input type="checkbox"/> Registered	<input checked="" type="checkbox"/> Certified
<input type="checkbox"/> Express Mail	<input type="checkbox"/> Insured
<input type="checkbox"/> Return Receipt for Merchandise	<input type="checkbox"/> COD

7. Date of Delivery
MAY - 8 1998

5. Received By: (Print Name)
Kathy Turner

6. Signature: (Addressee or Agent)
X Kathy Turner

8. Addressee's Address (Only if requested and fee is paid)
rec'd XG
MAY 11 1998

PS Form 3811, December 1994

Domestic Return Receipt

Thank you for using Return Receipt Service.

P 213 403 792

5/5/98 3291C CW

US Postal Service

Receipt for Certified Mail

No Insurance Coverage Provided.

Do not use for International Mail (See reverse)

Sent to
Ms. Kathy Turner
Geology/Petroleum Engineering Technician
Petroglyph Operating Company, Inc.
P.O. Box 1839
Hutchinson, KS 67504-1839

Postage \$

Certified Fee

Special Delivery Fee

Restricted Delivery Fee

Return Receipt Showing to Whom & Date Delivered

Return Receipt Showing to Whom, Date, & Addressee's Address

TOTAL Postage & Fees \$

Postmark or Date

PS Form 3800, April 1995